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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,624	05/15/2006	Stefan Faber	5000.P0090US	8459
23474 7590 10/03/2008 FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631				
EXAMINER QIAN, YUN				
ART UNIT 4162		PAPER NUMBER		
MAIL DATE 10/03/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/561,624

**Applicant(s)**

FABER ET AL.

**Examiner**

YUN QIAN

**Art Unit**

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date See Continuation Sheet

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :5/29/2007, 3/21/2006, 12/19/2005.

**DETAILED ACTION**

***Objections***

Regarding claim 18, the use of "so-called" renders the claim indefinite.

Regarding claim 24, the grammatical construction of the claim is not proper. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 7-8, 17-19, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3, 7-8, 17-19 and 23, the use of "preferably" renders the claim indefinite.

Claim 19 recites the limitation "The method for detecting gases..." in line1. There is insufficient antecedent basis for this limitation in the claim. Also claim 19 does not have any actual steps recited.

Regarding claim 22, the use of "in particular" renders the claim indefinite.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 8, 12, and 18-23 are rejected under 35 U.S.C.102 (b) as being anticipated by Wei et al. (Journal of Applied Physics, Vol. 88, No. 8, 4818, 2000).

Regarding claims 1-3, 8, and 12 Wei et al discloses nano crystalline CuO-BaTiO<sub>3</sub> semiconductor as a CO<sub>2</sub> gas sensor. The particle size of CuO-BaTiO<sub>3</sub> is about 2-30 nm, which encompasses the instant claims 2-3 (abstract, page 4819, Experimental method (1)).

Regarding claim 18, the examiner is interpreting claims of "so-called single-source precursor technique" as product by process by which the product is produced, unless applicant comes forward with evidence establishing an unobvious difference between the claimed product and the prior art product.

Regarding claims 19-23, Wei discloses the CuO-BaTiO<sub>3</sub> is used for detecting incombustible CO<sub>2</sub> gas as instantly claimed (Abstract and title).

Claims 1, 8-9, 12, 18 and 24-25 are rejected under 35 U.S.C.102 (b) as being anticipated by Wernberg et al. (5,266,355).

Regarding claims 1, 8-9, 12 and 18, Wernberg '355 teaches a method of preparing a thin film of metal oxide complex (such as LiNbO<sub>3</sub> and BaTiO<sub>3</sub> ) by vaporizing a single source precursor onto a substrate (col. 3, lines 29-30, and claims 1-3).

Regarding claims 24-25, Wernberg '355 discloses a process of preparing organometallic intermediate such as LiNb (OEt)<sub>2</sub> or LiTa(OEt)<sub>2</sub> by single-source

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technique and further decompose it to the corresponding metal oxide thin film.

The stoichiometric film can be achieved by controlling the metal ratio as desired (col.3 and col.4, col.12, Examples 2 and 3).

Claims 1, 4-5, 7-8, 11, 16 and 18 are rejected under 35 U.S.C.102 (b) as being anticipated by Bonanos et al. (GB 2206571A).

Bonanos teaches a doped barium cerate-based solid electrolyte for use in electrochemical devices. The amount of dopant gadolinium ion is from 0.01 to 0.30 atom fraction, which overlaps with recited claim 7 (page 3, line 4-28, and claim 1).

Regarding claim 18, the examiner is interpreting claims of "so-called single-source precursor technique" as product by process by which the product is produced, unless applicant comes forward with evidence establishing an unobvious difference between the claimed product and the prior art product.

Claims 1, 8, 15 and 18-23 are rejected under 35 U.S.C.102 (b) as being anticipated by Kazuko et al. (European Patent 0263394).

Regarding claims 1, 8, 15 and 19-23, Kazuko teaches a method of preparation an exhaust gas sensor containing  $\text{BaSnO}_3$  as the instantly claims (Abstract, page 1, lines 4-6, and page 8 lines 35-48).

Regarding claim 18, the examiner is interpreting claims of "so-called single-source precursor technique" as product by process by which the product is

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produced, unless applicant comes forward with evidence establishing an unobvious difference between the claimed product and the prior art product.

Claims 1-6, 8, 10-11, 13, and 17-18 are rejected under 35 U.S.C. 102 (b) as being anticipated by Lee et. al (US 2004/0175949).

Regarding claims 1-6, 8, 10-11, 13, and 17, Lee teaches a method of polishing a substrate with metal oxides. The metal oxides can be a lanthanide oxide, a doped lanthanide oxide, a lanthanide-doped metal oxide, a lanthanide perovskite, or any other suitable lanthanide-containing mixed metal oxide material (such as  $\text{LaCaMnO}_3$ ,  $\text{BaCe}_{1-x}\text{Nd}_x\text{O}_3$ ), in particular those used in gas sensor. The particle size of metal oxide is about 10 nm to about 800 nm, which encompasses instant claim 2-3. The dopant is a metal selected from Ba, Cu and Ca, etc. (claims 1-9 and 23).

Regarding claim 18, the examiner is interpreting claims of "so-called single-source precursor technique" as product by process by which the product is produced, unless applicant comes forward with evidence establishing an unobvious difference between the claimed product and the prior art product.

Claims 1, 8, 10, 14 and 18 are rejected under 35 U.S.C. 102 (b) as being anticipated by Kawamura (JP 09-021314).

Kawamura teaches a catalyst composition for reducing NO containing barium-lanthanide-Indium mixed metal oxide such as  $\text{Ba}_3\text{Y}_4\text{O}_9$ ,  $\text{BaLa}_2\text{O}_4$  or  $\text{Ba}_2\text{In}_2\text{O}_5$  as recited claims (abstract).

Regarding claim 18, the examiner is interpreting claims of "so-called single-source precursor technique" as product by process by which the product is produced, unless applicant comes forward with evidence establishing an unobvious difference between the claimed product and the prior art product.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUN QIAN whose telephone number is (571)270-5834. The examiner can normally be reached on Monday-Thursday, 10:00am -4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service



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Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YQ

/Jennifer McNeil/

Supervisory Patent Examiner, Art Unit 4162